

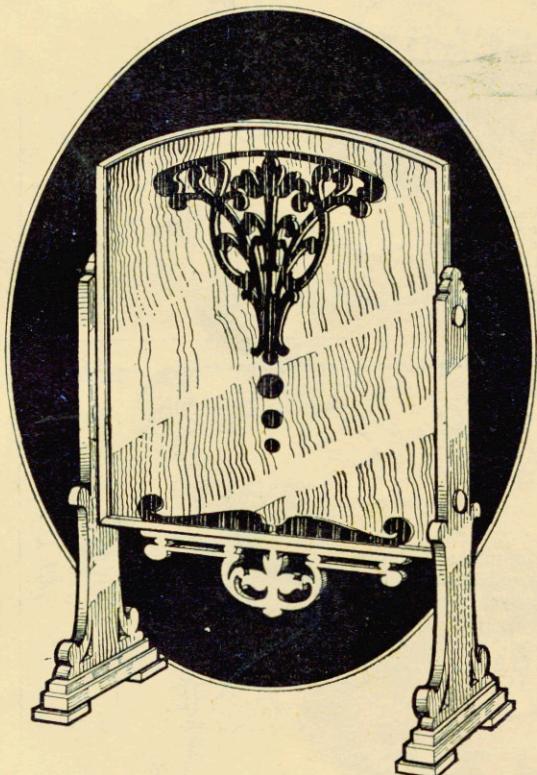
Hobbies

WEEKLY

Large Free Design
for making this

FIREPLACE SCREEN

Model Aircraft
A Dog Kennel
Cycling Notes
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April 9th. 1938

2^D

Vol. 86. No. 2216

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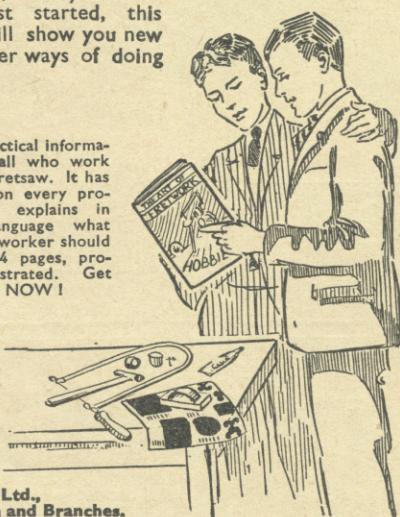
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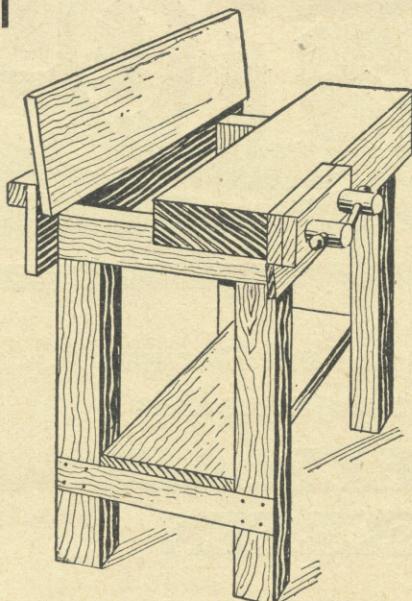
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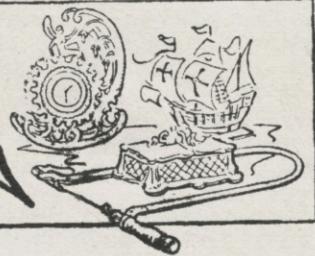
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Hobbies

WEEKLY



April 9th. 1938

Vol. 86. No. 2216

MODERN FIREPLACE SCREEN

WE have arrived at the time of year when fires are beginning to be a thing of the past, and in consequence the fireplace needs to remain decoratively hidden during the summer months. For that purpose a firescreen is needed so that this week's design sheet is quite practical and suitable just now.

The illustration shows it to be quite a modern style, with a large wooden front decorated with a single ornamental overlay. The large panel is in faced plywood whilst the decorations should be in some different colour either made by introducing a darker wood altogether, or by staining the overlay down so it stands up strongly.

The parcel of wood provided by Hobbies contains all the necessary material, including Spanish chestnut plywood—which can be stained down exactly like oak—and mahogany for the other parts.

In consequence, a striking piece of work can be completed with the fret-saw, all parts being cut in comparatively thin wood from the patterns shown on the sheet. As usual, these are pasted down to the various boards to the sizes shown. In some instances the patterns are broken owing to lack of space, but these can be extended to the distances shown on each part.

In the case of the backing to the plywood, half only is shown, but here again it is a simple matter to reverse the pattern on the opposite side of the centre line and so complete the shape.

The two side legs are first cut out from $\frac{3}{8}$ in. wood. They measure 20ins.

over all, and only have a little shaping to be done at the top and bottom. Notice the position of the two screws which have to hold the panel between the legs. And also note that the upper one is covered by a larger disc than the lower one—E and F respectively.

The bottom of the leg tenons into a solid base at A, and below this again is a lower base which is a plain rectangle extending beyond the other all round. Note two screw holes in addition to the mortise so that screws can be run upwards from beneath into the under edge of the leg to provide further strength.

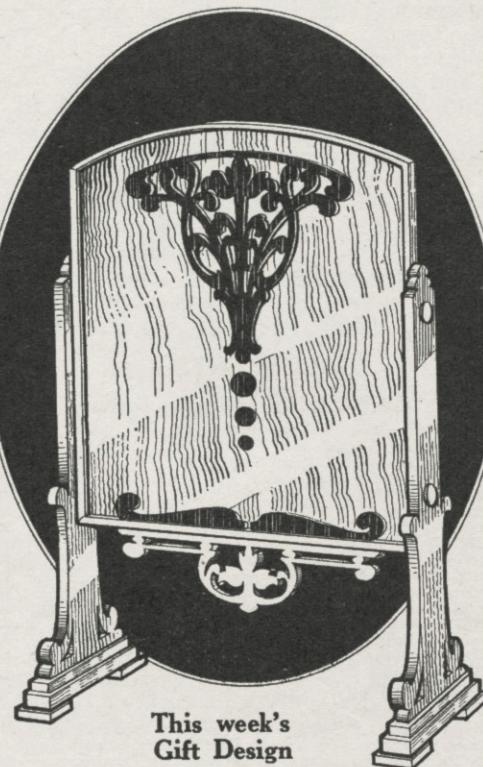
Finally, there are two feet each $2\frac{1}{4}$ ins. square which are glued below the others. They project about $\frac{1}{2}$ in. on three sides beyond the lower base portion.

Each of these two legs can be cut out, constructed and completed according to these details, and a thorough clean up should be given with glasspaper before putting them aside.

Now we can proceed with the large plywood panel which is $16\frac{1}{2}$ ins. wide and $19\frac{1}{2}$ ins. deep in $3/16$ in. wood. The top has a shapely arc to it and this is obtained quite easily. Along the bottom edge of the panel mark the centre point— $8\frac{1}{4}$ ins. from either side.

From here an arc is described which touches the top edge and curls round to each side. You will not, of course, have compasses long enough to do this, but it can be done with a piece of string held quite taut—a pencil at one end and a pin at the other.

Or, of course, you can



This week's
Gift Design

get a narrow strip of wood, pivot it at the bottom and fix a pencil in through a hole at the top to describe the arc required. Get this curve true, then cut it carefully with a fretsaw.

As this plywood is so thin it will only warp and twist over such a large area. In consequence, it must be stiffened up behind by backing rails which are shown in the back view detail on the design sheet.

They are cut from $\frac{1}{8}$ in. wood and glued on flush with the actual edge the piece C along the bottom is $16\frac{1}{2}$ ins. long, $1\frac{1}{4}$ ins. wide.

Side Strips

Above that stand the two uprights B which are $16\frac{1}{2}$ ins. long and the same width. Leave the top end projecting, then cut it off the same shape as the top of the panel. This will ensure its being exactly flush. Between these two uprights comes the wide piece D, and here again the upper edge can be left until the wood is glued to the panel then cut off the same shape.

Be sure to glue these pieces down very firmly and keeping the plywood panel itself flat. If, of course, there is still any tendency to wring, other cross struts can be put in to overcome it.

When the glue is set and the panel can be safely handled again, the edging strips can be fitted on and they can be prepared in the meantime. They are all pieces of $\frac{1}{4}$ in. material, $\frac{3}{8}$ ins. wide, and the length shown on the pattern.

Mitred Corners

All the ends, too, have to be mitred to make them fit at the corners. These mitres, however, are not all the same because the top of the panel is not a rightangle. The ends of the bottom strip are chamfered at 45 degrees, and the side strips which stands on them is also mitred at 45 degrees at one end.

The top end of this side strip, however, must be chamfered much less than 45 degrees in order to halve the angle between the side and the top piece. The correct mitre is shown by the section drawing on the strip piece itself.

All this mitring can be done carefully with the chisel, or with a plane, taking care not to burst the edges away in doing so.

The top rail must be bent to the shape of the panel as well as having its ends mitred to meet the side uprights.

This rail is roughly $17\frac{3}{4}$ ins. long, and in order to bend it safely without cutting, it is advisable to make a number of cross cuts with a small tenon saw. Make them, say, at $\frac{1}{2}$ in. intervals about $\frac{1}{8}$ in. into the wood, and on the underside.

Do not make too

many at first, but gradually bend the piece to see that it will come the right shape. If there are not enough cuts, add a few more.

Steam to Bend

Steaming will also help this bending. Hold the wood in the steam from a kettle and gradually bend it to the shape needed. Then hold it there—it can be fixed between nails on a bench—until firm, and put immediately in place.

All these edging strips are glued quite firmly along the edges of the panel and the backing pieces. Get the back edge flush so that the front projects. If you wish, by the way, this front edge can be rounded off with glasspaper to make it look neater.

MATERIALS SUPPLIED

Fretwood.—For this screen we supply a parcel of spanish chestnut plywood and mahogany for 8/- post free 8/9.

The fitting of the panel between the legs is the final operation, and must be done carefully to ensure that the whole framework is upright and true.

The position of the screws has already been indicated in the legs, a hole being bored through already. Flat-head $\frac{1}{4}$ in. screws should be used, and they must be countersunk level with the surface of the wood of the leg itself.

Having passed through the leg, the screw must go into the thickness of the backing piece as this provides a greater substance. See you get it exactly central to this thickness or it is liable to split the plywood and backing away from each other.

Cover the Heads

As mentioned, the screw heads are covered by circular discs and of these three each in two sizes must be cut. Of these two are used on the legs, and the third is a decoration below the overlay. Note the discs are of different sizes. The largest one covers the top screw and is put immediately below the overlay. The next size covers the lower screw with the third disc used on the front below the other.

Finally, there is a small disc of which one only is required. This is used as the last piece of decoration on the front. A good plan is to round the edges of these discs which cover the screws so they will not be so obvious or ugly. Of course, if you prefer not to have them at all, you can countersink the screws still more and cover their heads with plastic wood levelled off flush with the leg itself and the work is done.

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A MARBLE RACE GAME

MOST boys like some kind of marble game, and here is one shown in the accompanying illustrations which is both interesting and exciting. With the exception of the base, the game is constructed with three-ply wood and stripwood and the work is quite simple to do.

The race track for the marbles is made up in the following manner, details being indicated in Fig. 1. First cut five pieces of $3/16$ in. three-ply stripwood long by 2 ins. wide, and then fix three pieces of $1/4$ in. by $1/4$ in. stripwood along one side to form the two tracks 5 ins. apart as clearly shown.

Take four of the pieces thus formed and cut out the $5/16$ in. radius in one end of each piece as indicated in Fig. 1. Now cut four pieces of $3/16$ in. three-ply wood 13 ins. long by 1 in. wide, and the track can be built up as indicated in Fig. 2.

Building the Track

The best way to build up the track is to mark off the lengths along the upright pieces just cut as given in Fig. 2. The ends of the track, without the parts cut out are indicated at A, in Fig. 2, and the bottom piece is a plain track without a radius at either end.

The track and four uprights are readily held together with a few small tacks. Two end pieces are now cut from $3/16$ in. three-ply wood 13 ins. long by $2\frac{1}{2}$ in. wide, and the one which fits on the finish of the game is cut out at the bottom to allow the marbles to pass through as shown in Fig. 3. The ends when cut are fixed in position with a few tacks.

The Base

A piece of wood $\frac{1}{2}$ in. thick is next cut 14ins. long by 6ins. wide to form the base, and the game is then fixed on this by means of a little glue and a few small tacks.

The whole game can now be painted with

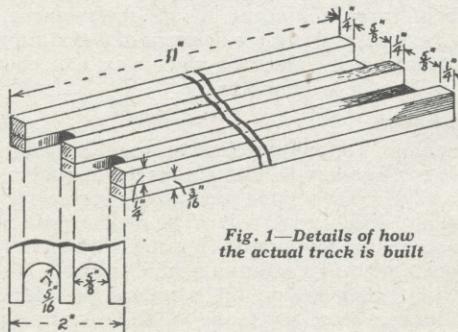


Fig. 1—Details of how the actual track is built

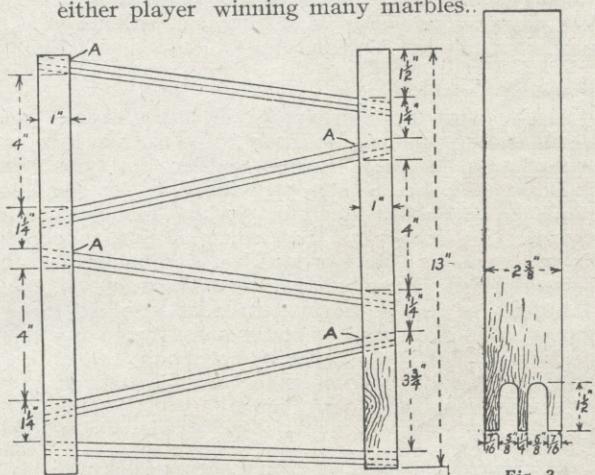


Fig. 2—A side view showing slope and construction Finishing post

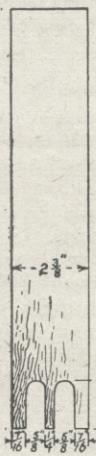


Fig. 3—

Look out for details on making a Canoe!



CYCLING

ACCESSORIES YOU NEED



MOST cyclists collect a hundred and one gadgets during their careers awheel, many of which are essential and others merely ornamental or in what we may call the "extras" class.

The really essential accessories are, of course, the most important ones, and the beginner who is anticipating his first tour this spring or summer, should consider carefully what he cannot do without, as well as the extras he may find an additional help or at least a convenience.

Tools to Carry

Let us consider for a moment the tool chest, which is generally a household affair kept in the back kitchen or an outhouse, or the cycle shed.

Herein you can collect all kinds of odds and ends that come in useful at one time or another. Copper wire, canvas patching, miscellaneous nuts and bolts, spanners of every conceivable size likely to be useful, balls for the different bearings, washers, pump parts, clips, rubber patches, and all manner of things, often in no decent order, but higgledy-piggledy among chain brushes, and tins of enamel.

This tool chest is very handy for your repairing and cleaning up a bicycle at home. But you certainly cannot carry much with you on a tour, yet there is no sense in setting off without a properly equipped tool kit.

Ready for Punctures

The modern bicycle, happily, is a trouble-free machine, and you are not likely to be worried by breakdowns in these days. Neither do tyres puncture as often as was once the case, for the roads generally are much better and free from thorns. We recall the time when, if you rode down a lane for a mile or two you were lucky to come through without picking up a thorn or two.

Indeed, so free is the modern rider from little minor troubles, as well as bigger ones, that many neglect to carry the customary repair outfit. Yet of all accessories this is the most important, especially when on a long tour.

For Long Trips

On trips of any great, or even moderate, distance a comprehensive kit should be carried. Even if you do not need it, you have the consolation of knowing that, should something go wrong with the machine, you will be in a position to deal with it. The little extra weight of a laden tool-bag is never really felt.

Whatever you do, get a really fair-sized tool-bag—if there is not one already supplied with

your machine—for it is temper-trying when the tool-bag is too small, and you have difficulty in cramming the spanners and other things inside.

Tools need not be heavy ones—lightweight spanners, etc., are just as effective. A repair case with rubber solution, etc., is also essential and see that the solution is workable.

The chief things are tyre levers, which should always be included in a tool kit, in case you have an obstinate cover to remove. One good adjustable spanner, a screw-driver, a cone key and any special tools necessary to fit the bracket and head adjusters.

A Spanner for All

Be sure the spanner is such as will tackle all the nuts, big and little, on the machine. Some cyclists prefer a set of spanners instead of the "shifter," and the writer must confess that he has had little cause to exult over the help of an adjustable spanner, and is more satisfied with a set of spanners that fit all the nuts, etc., on his cycle.

While on the subject of nuts and spanners, it is a good plan to make a special point of going over all the nuts at frequent intervals with your fingers—just testing them to see whether any have worked loose. Then you can take a spanner and do any tightening up that may be needful.

The Cyclometer

A useful accessory that anyone may fit to the bicycle is a cyclometer. Not only does this little gadget give you the number of miles ridden, but it is also useful in helping you to check up on the wear and tear of tyres, giving the mileage a tyre or pair of tyres will stand before replacement is necessary. Also, if you are desirous of ascertaining the distances from place to place, you can check them up by the cyclometer.

Correct Fitting

Remember, before purchasing such an instrument it is necessary to find the exact diameter of the wheel of your bicycle so that the correct type may be obtained and fitted. The mechanism of a cyclometer is really simple, for it is driven by a star wheel with five points or small spurs.

A little "striker" on the wheel of the bicycle comes into contact with one of these spurs and turns the star wheel slightly at each revolution. Five revolutions of the wheel result in one revolution of the star wheel, which in turn drives several drums each with ten figures, from 0 to 9, round its outside diameter. As the mechanism is driven as you ride, these drums work in conjunction and thus are recorded the miles travelled.

Most bicycles are now fitted when bought with the necessary white patch and red reflector. If your machine lacks these accessories it will be necessary to get them put on.

Rear Warnings

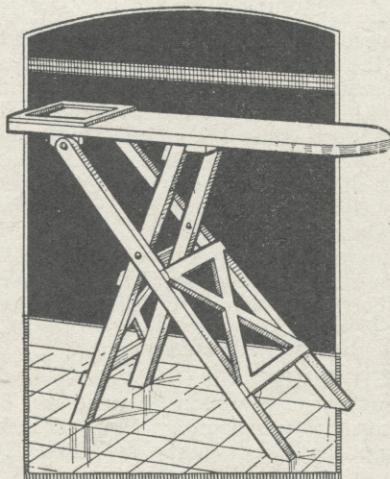
You can buy the white "sleeves" all ready for slipping on the rear mudguard, complete with the red reflector. Celluloid mudguards with white patch incorporated and complete with fork clips are quite cheap, and may be substituted for any ordinary mudguards that may be on your old machine.

If you anticipate rather a load in your touring bag, and wish to protect the mudguard from undue weight, there is a neat wire support available from the cycle dealer, and it only costs 1s.

One of the latest accessories that may be classed among the "extras" is a bicycle speedometer. It is a device operated by a flexible drive from the front wheel, and is mounted on the handlebars. There is also a gadget to be had combining the speedometer with the mileage recorder. Tourists on long runs realise that there is value in a speedometer in regulating their speed.

Other needful accessories which you must have on a touring holiday include, of course, lamps, rear panniers or one extending touring-bag (bags and panniers have already been fully dealt with) map or maps. Spare battery for electric lamps are also advisable, especially if you are likely to do a lot of riding after dark.

Another thing that may be useful is a small first-aid outfit—accidents *will* happen, you know.



the taste and the inclination desired.

There are design wallets with patterns from which excellent little pieces of doll's furniture can be made, but we are now offering in these pages a new series which will give the complete articles for a normal doll's kitchen. Full size patterns will be printed, and the novel little completed models will be a delight to admire and handle.

The first of these is the Ironing Board illustrated herewith, and this is going to be followed by a typical hot water system boiler, a sink and draining board, and so on. Look out, therefore, that you get the whole series which will appear at intervals in these pages.

Full Size Patterns

The actual size of the patterns given, and the details shown on the centre pages of this issue, are almost self-explanatory for the making of the folding ironing board provided.

The parts are cut from $3/16$ in. wood throughout to the shape provided. The main board itself is fitted with three pieces on the underside to hold

A DOLL'S HOUSE IRONING BOARD

HALF the joy of any possessor of a doll's house is the ability to furnish it, and to arrange its various contents according to

and fix the folding legs as shown in the side view.

On the top of the ironing board a small piece of $1/16$ in. wood forming a frame for the iron itself is cut and glued. This is put at the back end. On the underside a pivot piece is formed (C) cut to the shape shown by the sectional drawing from $3/8$ in. wood.

Fixing the Legs

Glue it securely $7/8$ in. inwards from the back end, then with a round-head screw fix on the piece F $1\frac{1}{4}$ ins. forward from this piece C. This piece F turns on the round-head screw and holds the legs against piece E when in position.

Notice that one end of the piece F will have to be chamfered slightly to lie against the legs themselves. Cut the legs out carefully from plywood as this is stronger, then pivot them together with screws at the point shown, adding the cross stays on the top to strengthen up.

Now screw on the top of the legs A to the block C previously added to the underside of the actual board. Then put up legs B so they rest against the pivot piece previously added. This will then decide the position of the piece E.

Finishing

Note here again, that one edge of this has to be chamfered to allow the legs B to lie snugly. The part D must also have its upper edge chamfered slightly to put it in line with the top of the legs and to bed to the underside of the actual board.

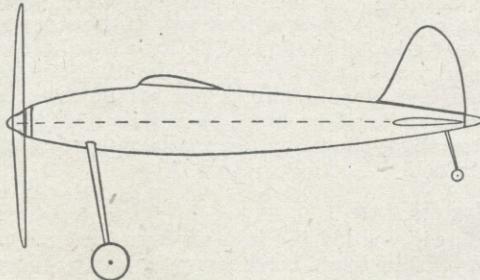
The whole work does not take very long and is interesting to complete. Indeed, when you have made one you will find how simple it is, then will be able to undertake several more so you can offer them for sale.

Wakefield-Type Fuselages

THE older type of duration model could be as light as the constructor's skill would allow, but for the Wakefield and other important S.M.A.E. contests, it must now have 190-210 sq. ins. of wing-area, and weigh at least 8-oz. This means faster power flight and glide. It is therefore more important than formerly to reduce head-resistance by streamlining, if we are to avoid a high sinking speed and thereby lose duration.

The fuselage offers the best opportunity for streamlining, and should be of circular, oval, or pear-shaped cross-section. The slipstream will then cause the minimum of resistance as it flows round and round the fuselage from nose to tail.

The hollow shell or 'monocoque' fuselage is best in theory, but tends to be heavy. This means that the model must fly faster, which increases



Suggestion for a Wakefield Type model

the resistance and requires more power, thereby reducing the number of turns which can be applied to the motor, and so lessening duration. Thus it is only too easy to lose all the advantage of streamlining.

The best compromise would appear to be a multi-sided fuselage, consisting of 16 or more longerons cemented to the outer rim of circular, oval, or pear-shaped bulkheads formed from 3-ply balsa, about $3/32$ in. thick. This structure is covered with innumerable small pieces of Japanese tissue, proofed with banana oil.

The greatest depth and width should be located one-third from the nose. If of circular section, depth and width should be not less than one-sixth of the length. With an oval or pear-shaped section the depth can be increased slightly, and the width reduced an equal amount.

So that the streamline shall be broken as little as possible, fit a 'spinner' over the propeller-boss, as shown in the sketch, and attach the rear end of the rubber to a removable tail-plug.

The wings are sometimes faired into the sides of the fuselage, but a simpler method is to rest

the wing on a light platform on top. The unbroken top surface makes for efficiency. The tailplane can be in two parts, each plugging into the fuselage side, with the front and rear edges in line with the propeller-shaft.

Aspect Ratio

A GOOD deal of argument is often expended over the subject of Aspect Ratio, which (for the benefit of the uninitiated) is the ratio between the span of the wing and the mean chord. To take an example, if the span is 36ins., and the chord tapers from 5ins. to 3ins., the mean chord is 4ins., and the aspect ratio is 9 ($36 \div 4$).

A high aspect ratio has the advantage that 'end losses' (the spilling of air over the wing-tips) are lessened because the tips are narrow. On the other hand, at the low speed of the average model, greater resistance is caused by the air passing over the lengthy leading-edge than by end losses. Moreover, it is difficult to make high aspect ratio wings sufficiently rigid without the weight increasing considerably.

The best compromise is therefore to use moderate ratio, say from 6 to 9, taking care that the span is sufficient to carry the torque of the propeller.

Rubber Efficiency

NOTWITHSTANDING all that has been written in recent years on the subject of rubber, one constantly encounters cases of such grievous misuse that poor flights, and an early disintegration of the fuselage through a burst motor, seem inevitable.

New rubber should be well lubricated *the day before use*, and stored overnight in an airtight tin with room to expand. Before flight is attempted, the rubber should be 'broken in' by giving say 150 turns, and allowing to unwind, then 250 turns, and gradually increasing until two-thirds of the maximum have been given. Flights can then be made on two-thirds, but full turns should not be applied on the first day.

After about a dozen flights, give the rubber a rest, and if you wish to continue flying, fit another motor identical in length and thickness.

Our "Comet" Model

WE hope all readers of this page and those interested in model flying are undertaking the building of The 'Comet' flying model for which a Blue Print is provided and instructions given in our issue of March 26th.

We look forward to hearing reports of the performance of successful owners who build this sturdy monoplane.

The Airman

A PRACTICAL DOG'S KENNEL

WE illustrate a very simple form of dog kennel that can be knocked together in a short time.

Its proportions are only suitable for small dogs such as fox terriers and the like.

It makes a comfortable bed for them, with plenty of room for standing up and twisting round into a ball to go to sleep—a curious little habit of all our canine friends, and one which they should never be deprived of because of lack of space as regards the width of the box.

Another feature about the kennel is the side opening and hinged door. The latter will be appreciated when it comes to cleaning out the inside and spreading new straw.

Your dog will like the side entrance, because he can lie without being in a direct draught, and then think of those useless bones he has collected—why, he can bury them in the far corner and you, perhaps, won't know about it!

The Framework

For cheapness and simplicity, the kennel consists of a deal framework "walled" with panels of plywood. Plywood is quite serviceable stuff if coated with creosote (on the outside only) and painted with thick cellulose or enamel paint, like the rest of the exterior, of course.

It will be seen from the side and end elevations at Fig. 1 that all the rail stiles consist of $1\frac{1}{2}$ in. by $\frac{1}{2}$ in. stuff. The first frames to assemble are those for the stiles, one having a rail running down from the crossrails to form the 8 in. wide entrance, with the other framing and no more.

Joining the Ends

There are different methods of joining the ends together, the simplest being to butt-join them with $2\frac{1}{2}$ in. oval nails which are well punched into the wood.

Another easy way is to half-lap them or make use of the halved-bridle; failing all three methods, you could dowel them or resort to mortises and tenons. For such reason, sufficient allowance has been made in the lengths as per Cutting List.

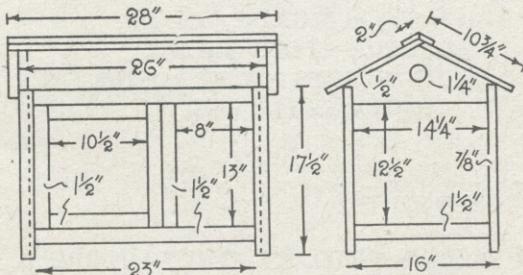
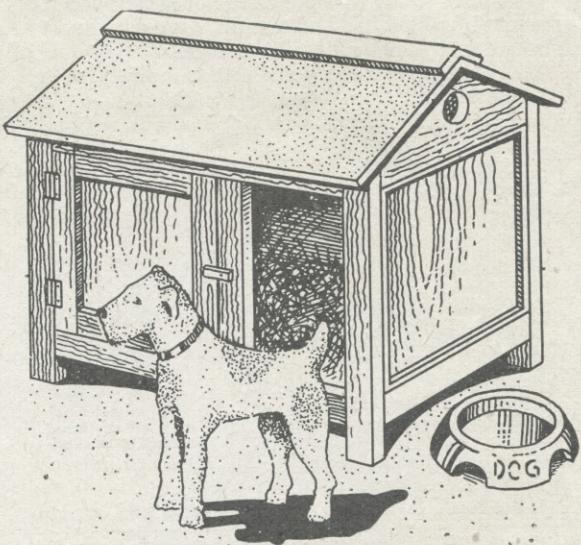


Fig. 1—Side and end elevation with dimensions



Having assembled the side frames, select one and line the panel aperture (flush at the interior side) with $\frac{1}{4}$ in. by $\frac{1}{4}$ in. strips of wood. This is not necessary with the door frame. The slanting-shaped end pieces (for the roof) are then cut and checked at the ends to suit the thickness of the frame stiles (see end view).

Nail $1\frac{1}{4}$ in. lengths of the stripwood to the straight edges of same—including the end rails—and keep them flush at the inside. The side frames are then simply nailed to each, after which the rest of the stripwood can be attached to form the complete rebate for the plywood panels.

The Bottom

Before fitting the panels, line the inside of the framing with fillets for the plywood bottom as

CUTTING LIST

- 4 leg stiles— $17\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 4 side crossrails— 26 ins. by $1\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 3 door stiles— 13 ins. by $1\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 2 door rails— $13\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 2 end crossrails— $14\frac{1}{2}$ ins. by $1\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 2 roof ends— $14\frac{1}{2}$ ins. by 6 ins. by $\frac{1}{4}$ in. thick.
- 2 roof boards— 28 ins. by $10\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick.
- 2 ridge pieces— 28 ins. by 2 ins. by $\frac{1}{4}$ in. thick.
- 1 plywood bottom— 24 ins. by $14\frac{1}{2}$ ins. by $3/16$ in.
- 2 end panels— $12\frac{1}{2}$ ins. by $14\frac{1}{2}$ ins. by $3/16$ in.
- 1 side panel— 23 ins. by 13 ins. by $3/16$ in.
- 1 door panel— 10 ins. by $10\frac{1}{2}$ ins. by $3/16$ in.

NOTE.—Necessary stripwood for lining can be cut and planed easily from waste material. It is obtainable from Hobbies Ltd. cheaply.

seen at Fig. 2. The bottom should be fitted and nailed in place at this juncture, following this procedure by fixing the panels in place with further pieces of stripwood which, in this instance can be either quarter-round or square (see Fig. 3).

Ventilation

As you will most likely want ventilators in the kennel (in spite of the opening which, in winter, at least, is—or should be—covered with a draping of canvas or sacking), drill $1\frac{1}{4}$ in. or 1 in. holes in the end piece as indicated, then tack circular pieces of perforated zinc over same at the inside.

The door space, it should be noted, is lined to prevent any likelihood of harmful draughts, and to also act as a closing rebate for the door.

The door itself can consist of a nailed frame, lined with strips and panelled with plywood, or you could make the door a panel of $\frac{1}{2}$ in. plywood

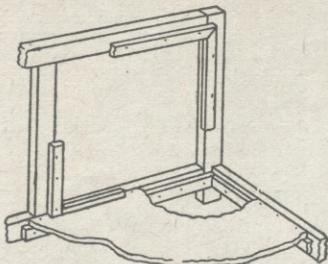
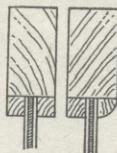


Fig. 2—Cut-away constructional view
Fig. 3—A sectional detail of the stiles
and border it with $1\frac{1}{2}$ in. by $\frac{3}{8}$ in. strips to give the appearance of panelling.

The roof, however, could be attached at this



stage of the proceedings. Deal shelving is used, and you should be able to procure boards of it planed to the thickness and width required. Nail one board across so that it can be bevelled away with a plane to suit the slant. The other is then affixed on top and bevelled similarly.

Before going further, decide whether you prefer covering the roof with extra coats of paint or with roofing felt. The paint is a good preservative and would serve its turn.

The felt means extra expenditure, but a good waterproof roof. Which? If you decide on the paint alone, attach the ridge pieces. These are attached after the roof is covered with felt.

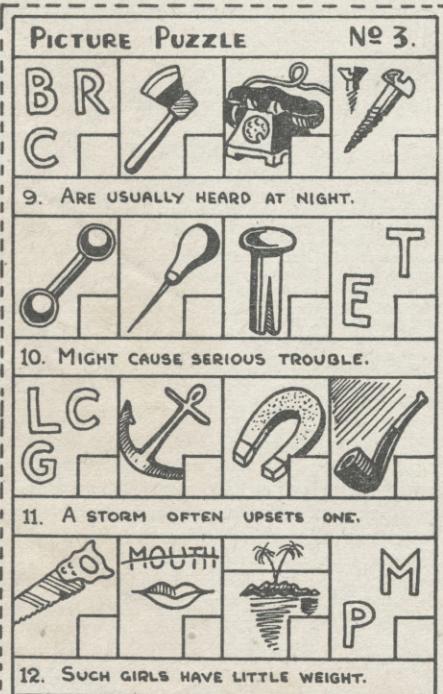
The door can be hinged as shown or recessed to the left-hand stile of the door. A wooden or metal snib is ideal for keeping it closed. You could also use small latches or bolts, both providing a means for opening the door. The writer's preference would be two small snibs at top and bottom of the door with a small wooden knob screwed to the centre of the closing stile.

OUR PICTURE PUZZLE CONTEST

(3rd WEEK)

This is the third picture of our BIG four-week contest! You'll like working out the simple, but tricky little puzzles—and then imagine winning a brand new A1 Fretmachine! It MUST be won—somebody's going to win it—and that somebody can be YOU!

But, should you just miss the mark, there's a fine Second award which enables you to order any goods you like in Hobbies Handbook from Hobbies, Ltd., up to 17/6. None of these will be yours, however, unless you read the rules and Conditions carefully and abide by them. A copy of the previous two Hobbies with the pictures are still obtainable for 3d. each, post free.



WHAT YOU HAVE TO DO

Collect the four coupons two of which have already appeared, and complete them in ink according to the clue sentences.

To get the answers to the clue sentences, study the pictures and pencil down (in the blank spaces provided) the INITIAL letters of the things they represent. Alternative words must also be considered. The alternative LETTERS of same are shown in white in groups of two's and three's. You may use any one of them which you think gives the best and most apt answer—but only ONE, please. Two letters in a single space will be disqualified.

Should you happen to spoil a coupon you can obtain fresh copies of Hobbies Weekly from our Back Number Dept., providing you enclose 3d. in stamps. No Competitor can send in more than two complete sets of coupons, there being four in the set of Puzzles numbering from 1 to 15.

Full details of Rules and closing dates will be given with the last set of pictures in one week's time.

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3rd PRIZE—HOBBIES FOR SIX MONTHS.

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In the Overseas Section the two principal prizes will be Goods value 10/6 (1st) and Hobbies Weekly Free for 6 months, with numerous consolation prizes.

3rd WEEK'S PICTURE—ONLY 1 MORE

A TODDLER'S TRICYCLE

HERE is your chance to make something really worth while for a small relative or friend. As the picture shows, it is a small tricycle for a little nipper who has learned to toddle. The seat is padded comfortably so that he can play for hours without danger of hurting himself.

The whole thing is simply and strongly made, and should present no difficulties to the average woodworker. Oak can be used for the main parts, or, if cost comes into the question, deal can be used instead.

If deal is used, the whole thing should be painted a bright colour, whereas if oak is used it can be stained dark and varnished.

Dimensions

The tricycle when completed should measure 16ins. high, 12ins. long and 7ins. wide.

The parts are cut from $\frac{1}{2}$ in. wood and are screwed and glued together; there being no tedious job of cutting mortises and tenons. The upright and handlebars which are cut from inch by inch wood are dowelled together as will be explained in the constructional details.

Making the Seat

It is important that this should be shaped carefully because the child depends upon the shaping for comfortable riding. Take a piece of wood 12ins. by 6ins. and mark the centre line down the middle.

Now mark a point 2ins. from one end, and on the centre line describe a circle 2ins. radius. At the centre of the circle bore a hole $\frac{1}{2}$ in. diam. and enlarge slightly with a round file. The curved part which forms the front end of the seat should start 5ins. from the end and curve nicely to finish on the rim of the 2in. circle as shown in Fig. 1.

Except for rounding off the corners, the seat is now finished, and the next part to tackle is the part which forms the axle. In Fig. 2 you see how the axle and seat are nailed or screwed together and strengthened by a cross-bar which is marked in Fig. 2 as B.

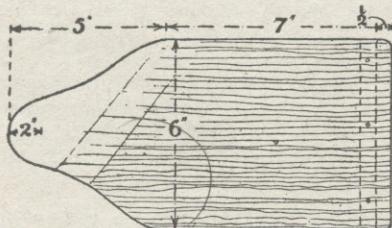
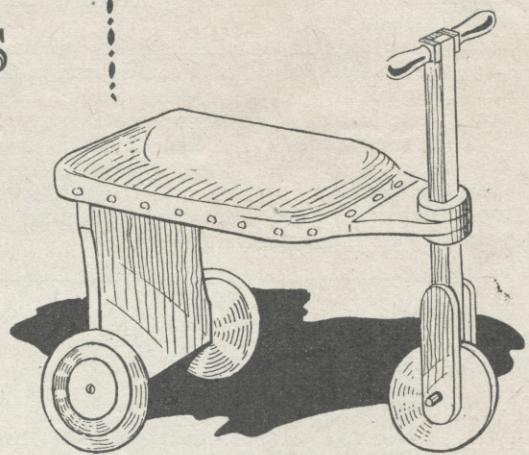


Fig. 1—Shape and dimensions of seat



The axle A is made from a piece of wood $7\frac{1}{2}$ ins. by 6ins. by $\frac{1}{2}$ in. and is cut to the dimensions shown in Fig. 2, and screwed securely to the seat, $\frac{1}{2}$ in. from the end.

The crossbar which measures 9ins. by 2ins. by $\frac{1}{2}$ in. should be laid across the seat and the axle in the approximate position and the angles marked off in pencil. This ensures a good fit when it has been screwed in place. One pair of Hobbies No. 604 wheels $3\frac{1}{2}$ ins. in diam. are required for the back wheels, and are screwed into the axle. A screw and washer is provided with each wheel for this purpose.

The Head of the Tricycle

The main part of the head consists of a piece of wood $11\frac{1}{2}$ ins. long and 1in. square. With great care to get a straight and square cut, this piece should be cut in two, 7ins. from one end. One piece forms the top, 7ins. long and the other piece forms the lower member.

The top is completed as follows; bore a hole, very carefully in one end $\frac{1}{2}$ in. diam. and $1\frac{1}{2}$ ins. deep. Clean out the shavings left in the hole and turn your attention to the other end. This end is halved neatly as shown in Fig. 2, to take the handle. To make the handle you require a piece of wood 7ins. by 1in. by 1in. which should

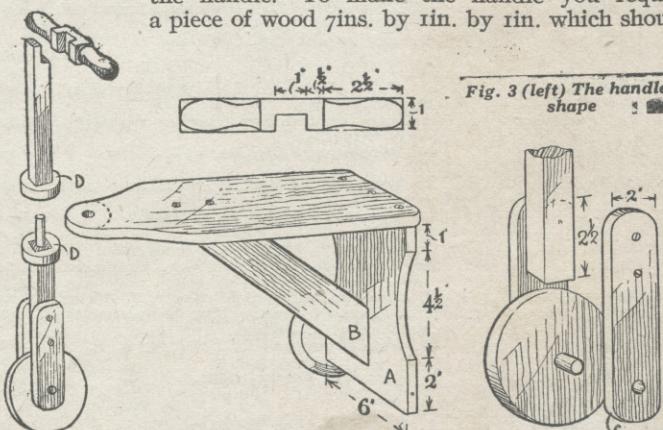


Fig. 2—Details of the general construction

Fig. 3 (left) The handle shape

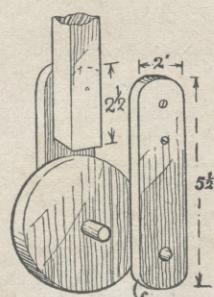


Fig. 4—Fixing the steering wheel

be marked up as shown in Fig. 3 and cut to shape with a fretsaw.

After cutting the handles roughly to shape, they can be finished off with a rasp and a final smoothing with glasspaper, and when shaped neatly, can be glued and screwed to the upright.

The lower part is $4\frac{3}{4}$ ins. long and also has a hole bored in one end. This hole should be of the same depth and diameter as the hole in the top member. At the other end are glued the pieces C Fig. 4, to take the front wheel.

CUTTING LIST

1 piece 12ins. by 6ins. by $\frac{1}{2}$ in. seat.
 1 piece 9ins. by 2ins. by $\frac{1}{2}$ in. crossbar.
 1 piece 7ins. by 6ins. by $\frac{1}{2}$ in. axle.
 1 piece 11 $\frac{1}{2}$ ins. by 1in. by 1in.
 2 pieces 5 $\frac{1}{2}$ ins. by 2ins. by $\frac{1}{2}$ in. C.
 1 piece 4ins. by 2ins. by $\frac{1}{2}$ in. (pieces D).
 1 piece 3 $\frac{1}{2}$ ins. by 3 $\frac{1}{2}$ ins. by $\frac{1}{2}$ in. wheel.
 1 piece 7ins. by 1in. by 1in. handlebars.
 1 piece $\frac{1}{2}$ in. dowelling—6ins. long.
 2 No. 604 wheels 3 $\frac{1}{2}$ ins. diam.

These pieces measure $5\frac{1}{2}$ ins. by 2ins. by $\frac{1}{2}$ in. and should not be screwed in place until the wheel is completed. A hole just over $\frac{1}{4}$ in. in diameter is made in each piece an inch from the bottom to take the axle. The front wheel is $3\frac{1}{2}$ ins. in diam. and is made from $\frac{1}{2}$ in. wood with an axle $1\frac{1}{4}$ ins. long made from $\frac{1}{4}$ in. dowelling.

When the axle is glued in place, one piece C is screwed to the upright and the wheel layed in position. The other piece is then put over the top of it and is also screwed down leaving the wheel and axle to rotate freely.

To fix the two parts of the handlebars and front wheel together, a piece of $\frac{1}{4}$ in. dowelling, $3\frac{1}{2}$ ins. long is required. First, however, it is

necessary to make two washers D to fit on each end as shown in Fig. 2.

These washers are 2ins. in diam. and are cut from $\frac{1}{2}$ in. wood. From the centre of each washer should be cut a square with sides measuring $\frac{1}{2}$ in. When finished, they are glued to the uprights and the piece of dowelling glued into the lower member.

When the glue has set, the dowelling should be pushed up through the hole previously bored in the seat, and the top member pushed down on to it. Be very careful however, not to push it down too tightly, or the handle bars will not turn.

Just a little glue will be needed to keep the dowelling from slipping in the upright when the handlebars are turned.

Padding the Seat

If you can find a piece of soft leather from an old chair so much the better, but failing this a piece of thick cloth will be quite suitable. It should be cut roughly to size with about an inch and a half overlap all round.

It should first be pinned round the back and sides with large headed pins, and then stuffed with suitable material such as soft rags and feathers.

When it is full, the front should be pinned down and the overlapping edges cut off neatly, level with the bottom edge of the seat.

The final colouring is mainly a matter of choice, but red or some bright colour is more likely to please a small child.

Make sure you do not hurry the painting or the effect will be spoilt. The first coat should be perfectly dry before the second is put on. If the instructions are carried out carefully, the tricycle will be equal to any shop-made article.

HOBBIES LEAGUE CORRESPONDENCE CLUB

These Members of Hobbies League would like to get in touch with other readers and so form pen friendships which will undoubtedly prove interesting to all. In this way, one has a wide circle of friends and increased knowledge in people and places, not only in one's own country, but all over the world. Members should write direct to the addresses given, stating their full address and age, adding any hobbies in which they are interested. Hundreds of members have already taken advantage of this Correspondence Club in this way and others who wish to do so should notify the Registrar with the necessary particulars.

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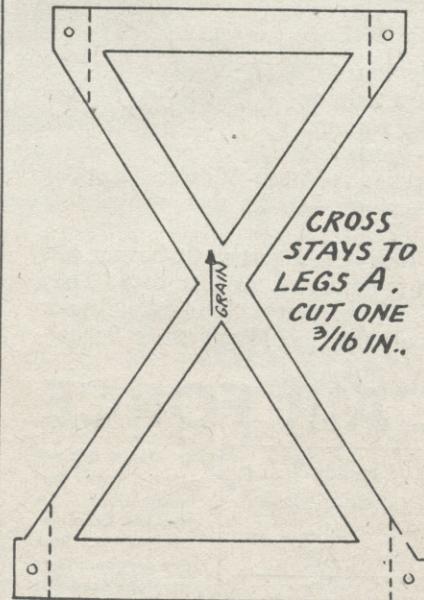
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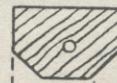
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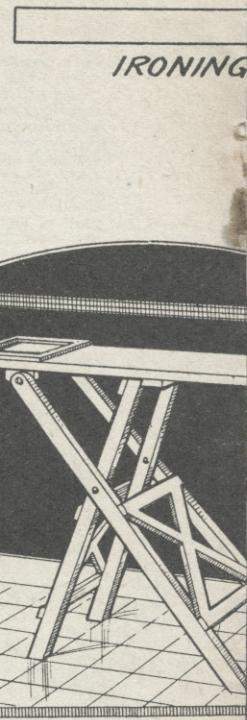
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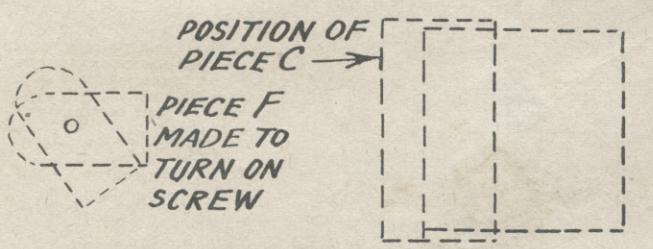
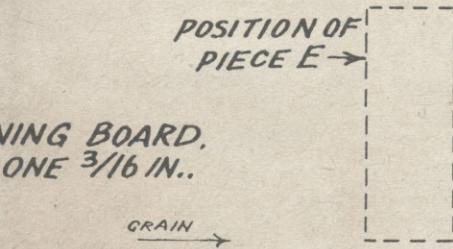
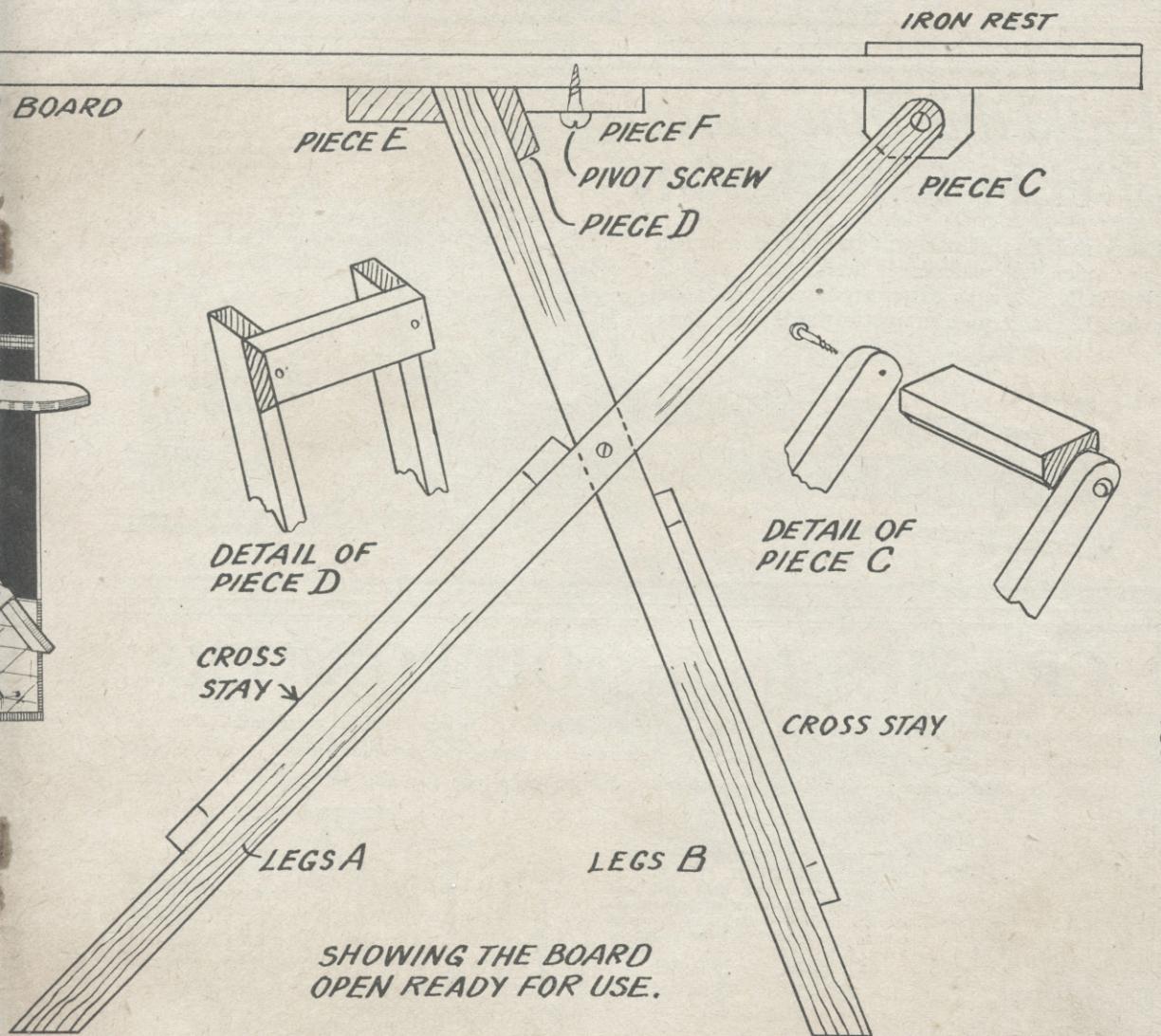
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Full instructions on making given on page 29



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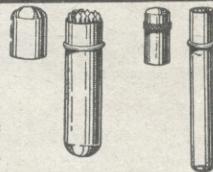
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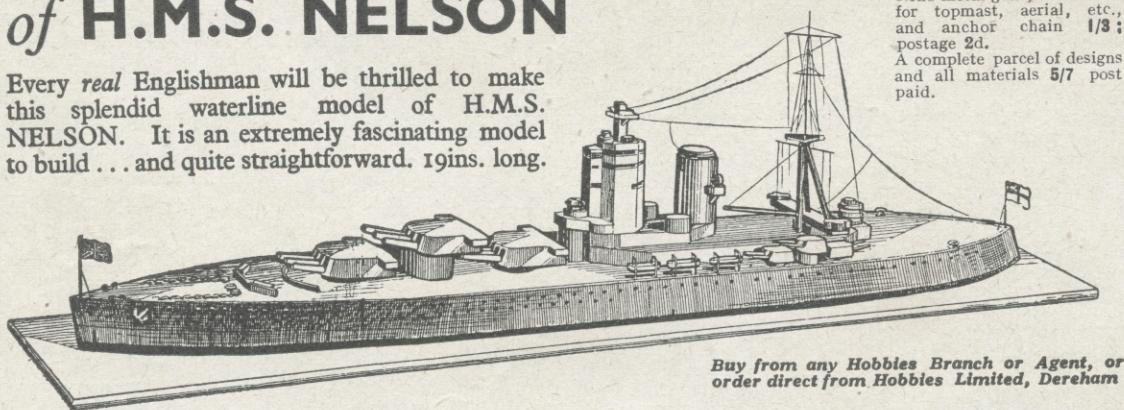
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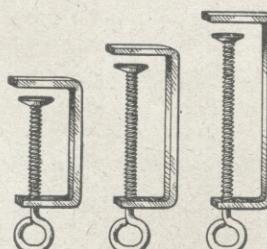
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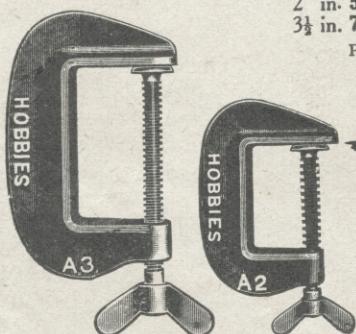
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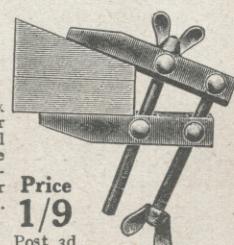
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ACCUMULATOR CHARGING FROM A.C. (Continued)

HERE are the concluding details on the charging of accumulators from A.C. Mains. The first portion of the article appeared in our issue of March 26th and back numbers are obtainable for 3d. post free.

A suitable transformer will be found described in the issue of "Hobbies" for December 4th, 1937, the turns on the secondary winding being increased if necessary according to the voltage of the accumulator to be charged.

A 12-volt battery, for instance, would require a transformer stepping down the mains voltage to 12 plus 25, say 37 to 40 volts on the secondary. The exact charging rate is being adjusted by a small variable resistance placed in circuit with the battery together with a low-reading ammeter, the connections of which are shown in Fig. 8.

Making the Rectifier

The rectifier itself is made up as follows. The outer container can be either of glass or stoneware, of 3-pints capacity, and is fitted with a wooden cap to exclude dust and support the electrodes.

Coat the wood all over with shellac varnish or with anti-sulphuric enamel to prevent electrical leakage. The centre of the wooden cap is bored to receive a $\frac{1}{4}$ -inch round aluminium rod in the centre. It is provided with a terminal at the top and a length of black chemical rubber tubing fits tightly on the inside portion, leaving only one inch of the bare metal exposed to the action of the solution at the lower end.

Lead Electrode

Ordinary red rubber tubing is unsuitable as it contains sulphur. The lead electrode consists of a strip of lead sheet one sixteenth thick and two inches wide bent into "G-form" with a projecting lug left at the top which is secured by another terminal screw to the wood lid.

The lead cylinder surrounds the exposed portion of the central aluminium rod near the bottom of the container, and should be about $2\frac{1}{2}$ inches overall diameter.

The Electrolyte

The only other material necessary is the electrolyte which is a saturated solution of ammonium phosphate. This is best made up at the chemists with distilled water, a quart being required for a rectifier of this size. Commercial ammonium phosphate may be used, as this is far cheaper than the pure salts, but in that case it should be tested with a strip of blue litmus paper before putting it into the container.

If found acid by causing the paper to redden, it

will need neutralising by the addition of a few drops of liquid ammonia well stirred in until it just ceases to redden the test paper. In course of time it may be found necessary to add more ammonia as the cell tends to become slightly acid after working.

Prevention of Creeping

Lastly, as a precaution against "creeping" of the salts and undue evaporation, half an inch of paraffin oil may be floated over the surface of the phosphate solution when in place, but this is not absolutely necessary.

These rectifiers work very successfully if the above instructions are carefully observed and they are not allowed to become too warm when at work. The rectifying action more or less ceases at a temperature of about 70 deg. F., but for slow charging rates, such as 1 or 2 amperes this size of rectifier will not overheat.

Always make a point of connecting the accumulator to the rectifier before switching the transformer on the mains, and when charging is completed cut out the main supply before disconnecting the accumulator.

Regulating the Current

The use of a variable resistance and ammeter connected in the charging circuit is strongly recommended, as this enables the charging current to be regulated exactly to the requirements.

The correct charging rate for any accumulator is one tenth of its ampere-hour capacity, and twelve hours is required to fully recharge an exhausted accumulator. There is no harm, however, in charging for longer periods at a slower rate, in fact it is beneficial to the accumulator when time permits.

When Fully Charged

Remember, an accumulator is fully charged when the voltmeter reads $2\frac{1}{2}$ volts per cell, and the specific gravity of the acid is 1.200 when tested on a hydrometer. When neither of these instruments is available the visible condition of the acid is a fair guide, a fully charged condition being indicated by the acid turning a milky white colour.

No Risk

There is not the slightest risk of "shock" when charging accumulators with a chemical rectifier and a transformer, but it is always advisable to stand the accumulator in an earthenware dish, as they sometimes "froth" at the vent holes and the acid runs down the sides to the detriment of the table below.

EASY METHODS OF LEARNING MORSE

"JUST a series of dots and dashes crackling through the ether....but they often spell LIFE...." is how one paper recently summed up the usefulness of Morse.

The signals, of course, can be made with light, knocks, whistles, fog horns, etc., as well as by wireless telegraphy. It is certainly an interesting thing to know, for who can tell when they may suddenly find themselves in a serious predicament whereby its use would bring help and relief?

If you possess a radio, you can at times, by tuning in on certain wavelengths, listen to the piping signals and messages transmitted by expert telegraphists at sea. If, therefore, you had a knowledge of Morse, you could tell whether the messages were coming from a distressed vessel or some stricken expeditionist thousands of miles away....

Important Time Units

Naturally, one cannot learn the whole Code all at once. Apart, too, from the jumble of dots and dashes which are easily memorized by gradual stages, we must not forget the little units of time. For instance, a dot is taken as one unit of time, the dash being the equivalent to three units, while the interval between each flash or sound is one unit, with that between each letter, three units, and between each word, six units.

That little lot should be taken as a sort of time table to be memorized as written for repeating over in your mind when you feel a bit muddled. The lapse of time of each unit is of comparatively short duration—a mere jab on the transmitter key, so to speak.

In regard to actual telegraphing, many transformations may occur. However, as this article is only supposed to deal with the learning of the various signal characters and figures of the Code as they stand and understood by the majority of amateurs, we can skip that rather complicated part and proceed with the good work.

A Reference Chart

In this connection, let's forget the units a moment and concentrate on the alphabetical order of the dots and dashes in relation with the letters, including the numerical order in relation with the figures. Most of you may have a reference chart giving the values, so for the benefit of those who do not possess one, we print herewith a makeshift which will serve its purpose. Note that a low case letter (o) is used for the dot, while a hyphen (-) takes the place of a dash. To avoid confusion, the letters are shown in parenthesis.

It will be seen that the arrangement of the figures, at least, shows how the combination of dots and dashes were originally set out. Always

remember that number 5 has 5 dots, whereas number 0 has 5 dashes. Each number must have five signal characters. As the dots diminish according to their numeral value, the compass of five is made up with dashes, the opposite occurring when the dashes become less in value.

By Methodical Stages

To grasp the arrangement of the letter characters fully, they should be approached by methodical stages. The best thing to do is to take a small portion of the Code, study the values, and then try to make up tiny sentences containing only the letters selected.

Instead of picking them out at random, how-

Morse Signal Characters.

(a)	o -	(n)	- o
(b)	- o o o	(o)	- - -
(c)	- o - o	(p)	o - - 0
(d)	- o o	(p)	- - o -
(e)	o	(r)	o - o
(f)	o o - o	(s)	o o o
(g)	- - o	(t)	-
(h)	o o o o	(u)	o o -
(i)	o o	(v)	o o o -
(j)	o - - -	(w)	o - -
(k)	- o -	(x)	- o o -
(l)	o - o o	(y)	- o - -
(m)	- -	(z)	- - o o

Figures.

(1)	o - - - -	(6)	- o o o o
(2)	o o - - -	(7)	- - o o o
(3)	o o o - -	(8)	- - - o o
(4)	o o o o -	(9)	- - - - o
(5)	o o o o o	(0)	- - - - -

ever, select those few letters having only dot values and dash values. Here they are grouped in their correct manner of value:—

Dots.	Dashes.
(e)	o
(i)	o o
(s)	o o o
(h)	o o o o
(t)	-
(m)	- -
(o)	- - -

You'll find it fascinating making up suitable little sentences from these letters alone. First memorize each letter and its value, whether consisting of nothing but dots or dashes as shown.

If you can enlist the services of a willing colleague, both of you will soon master these preliminary values quite rapidly. You do not need a transmitting apparatus. Your friend simply makes up a sentence from the list and calls out the letter values in correct formation reading

from left to right. All you have to do is to write down on paper the proper letters and make a space, comma or full stop when your friend says so.

Simple Sentences

The sentences should not be too long. As you become more proficient, they can be increased as much as the set of letters will permit. Here are a few sentences:—

1. Tom is too hot.
2. Oh, I see it, Tim.
3. It is his sheet.
4. He sees Miss Simms home.
5. It is her mite's teeth.

Proceeding on these lines, you will be surprised at the amount of progress you will make. Then, by way of a change, you could ask your friend to rap some object, such as a cup or table in order to "transmit" the dots and dashes, or he could use a flashlamp.

The Morse Code, as you can see, does not contain full stops, commas, semi-colons, question marks, etc. As a consequence, most messages are transmitted in short sentences broken only by the word "stop." One could state "comma," "question mark," "semi-colon," and so forth, of course, if desired, but in real practice, people are more concerned with information contained in a message rather than the ostentatiousness of punctuation.

CHILD'S TROLLEY AND JIG-SAW

HERE'S a novel little toy to make up for the youngsters. It is, first and foremost, a trolley which can be pulled about and loaded up with building bricks and other "goods." Then, when not in use this way, it serves for quiet amusement by teaching how to piece together a simple jig-saw puzzle.

This jig-saw puzzle can be made up either from different coloured woods, or it may be of paper stuck down to the wood and each section cut round just like an ordinary jig-saw puzzle.

The sketch of the finished toy on this page gives a good idea of the make-up, while the plan of the top in Fig. 1 shows the simple outline which goes to form the picture. The $\frac{1}{16}$ in. squares which cover it assist in getting the shapes when enlarging onto the wood or the paper to form the pattern.

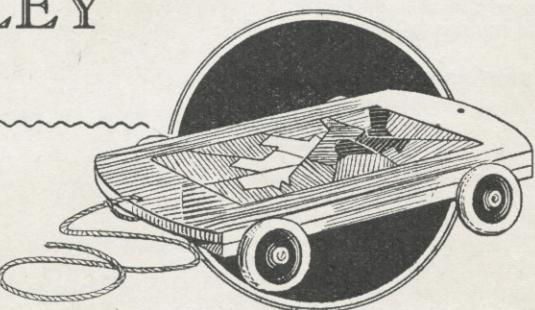
The Trolley Top

The top of the trolley, as shown in Fig. 1, will be cut from a piece of $\frac{1}{2}$ in. wood. Choose a good flat piece of a fairly hard nature, such as beech or Spanish chestnut.

Cut all the interior pieces, using a coarse fretsaw, and afterwards cut round the outline and clean up the surfaces and edges with glasspaper.

The next piece to cut will be the backing which is glued only to the frame portion of the picture.

As Fig. 2 shows, this is a plain piece $\frac{1}{8}$ in. thick, and to the underside is glued and nailed two axle bars $\frac{1}{8}$ in. each, being put 2 ins. in from the ends of the backing piece. The wheels, which are screwed



to the ends of the axles, may be obtained from Hobbies. They are No. 604, $2\frac{3}{8}$ ins. in diam. and may be purchased together with suitable round-headed screws and washers for 7d. the set of four.

Before the wheels are attached, however, the wood of the trolley should be painted or varnished. Certain parts of the puzzle are also stained to give a little different shaded effect.

Another Top Suggestion

Instead of the picture puzzle shown, some workers will no doubt prefer to have just a number of say, 2 in. or 3 in. square blocks painted different colours. From these all kinds of geometrical designs can be made up.

Toys like this, as can be seen, are easily made up in numbers and would sell well at toy shops, and would serve admirably for bazaars and sales of work.

Hobbies can supply, in addition to the wheels, hard wood suitable for the trolley, and enamel, stains and varnishes.

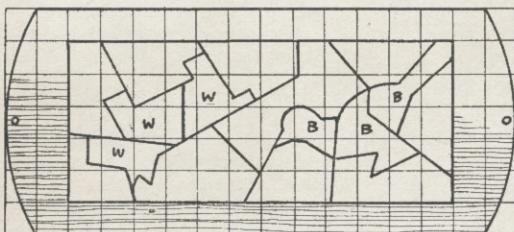


Fig. 1—The top outlined for drawing

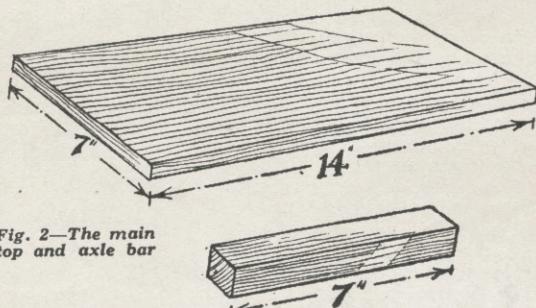


Fig. 2—The main top and axle bar

Books to Read!

To have on your shelves or borrow from the library

BELOW is a review of some of the most recent books which are likely to be of interest to readers. They are obtainable through any newsagent or from the publishers themselves if postage is added. We can arrange for the sending of the books concerned if you so wish.

Dictionary of Wood

By E. H. B. Bolton.

AMONG the extremely useful books recently published, this must take a very high place for those interested in the varieties of wood, their general properties, the family and species to which they belong, and the uses to which they can be put. The book is certainly beautifully printed, with scientific and practical notes on about 100 species. What is more helpful is an actual illustration of a board so one can tell exactly the type of wood it is, as well as the grain. For Technical Institutes, Manual Centres, Libraries and practical workers in wood, there is no doubt such a handbook as this is a veritable mine of information.

(Published at 3/6 nett by Thos. Nelson & Sons Ltd., Edinburgh).

Indoor Model Railways

By E. W. Twining

THE interest of our readers in model railways is shown by the popularity of the articles we have in these pages. This new book on the subject deals with the miniature gauges—the HO. and the OO—and in it are photographs, drawings and details covering the whole range of this hobby. The drawings are done to scale, and are therefore, of much technical interest because from them the worker can build up a complete system of his own. Mr. Twining's name is known as an expert in the model-making line, and he is, moreover, a practical engineer who can explain methods and construction in a straightforward and non-technical manner. Although these tiny gauges have only comparatively recently become exceedingly popular, it is interesting to note that the author himself dealt with the subject as

long ago as 1906. The HO gauge, as a matter of interest, is on a scale of 3½ m.m. to 1 ft. and the OO Gauge is 4 m.m. to a foot. Thus the models and layout are really extremely small but they offer an enormous fascination whether from an exhibition purpose or for practical running by electrical drive. All these points are dealt with including motor mechanisms, twin railways, track, 3rd rail and two-rail systems, as well as a complete chapter of architectural features such as stations, tunnels, termini, etc.

(Published at 5/- by George Newnes Ltd., 8-11 Southampton St., Strand, W.C.2).

Hints and Tips for Motor Cyclists

IN these constantly changing times it is difficult to get a manual on such a subject as this which is satisfactory, unless it is quite new. Here is a book which has been published in many editions—this is the 13th—which is constantly being brought up to date by the publishers of "The Motor Cycle." It has 204 pages with a carefully indexed and numbered arrangement which would facilitate quick reference. It should be, surely, a matter of pride that the owner of a motor cycle knows as much as he possibly can of his machine and most riders would find a great deal of helpful and practical information in a book such as this. Moreover, it is a definite money-saving proposition because by reading the various hints and learning all the actual working of the various parts, one must save money and get the very best out of any bicycle concerned. All aspects are reviewed in detail from the selection of a machine and accessories to care and maintenance and the finer points of tuning.

(Published at 2/- by Iliffe & Sons Ltd., Dorset House, Stamford Street, S.E.1).

The British Journal Photographic Almanack

EVERY year one of the most interesting photographic annuals is the British Journal

Photographic Almanack, and the 1938 edition just issued is in advance even of the excellent ones which have preceded it. It has a number of articles by experts, and although they deal largely with the technical and professional side, there is much which any amateur can learn. It shows you how to tackle unaccustomed work, how to colour prints from miniature negatives, anaglyphs (works of art carved in relief) in addition to containing a review of new cameras, lenses, apparatus, etc., and formula and instructions for almost all kinds of photographic processes. The book contains 746 pages so you may imagine the large amount of information inside it.

(Published at 2/- by Henry Greenwood & Co., Ltd., 24 Wellington Street, Strand, W.C.2)

Charles Hayward's Carpentry Book

IT is a long time since we have seen such a generally useful and thoroughly practical book of carpentry as this, which, of course, is not to be wondered at in view of the experience and knowledge of the author. It is certainly an ideal book for anyone who likes making things in wood, for it includes almost every branch of work and even covers the care and use of tools. Unlike many books it is not above the head of the average worker, and it gives the details of how to do and how to make things, complete with illustrations which positively invite him to go ahead without any further delay or trouble. There are literally dozens of everyday things to make, from a pigeon cote to a child's cot, or from a dining table to bookends, and planing racks. In every case a complete cutting list is set out much as we do in Hobbies Weekly, so you can appreciate how much wood will be required and get to work straight away from the detailed drawings and explicit instructions which are contained. A glance through the early pages makes one realise what a lot there is to know even in the use of tools only. Then as one proceeds one learns of the various joints to

use in woodwork and afterwards how to apply them to practical jobs. Needless to say there are complete chapters on finishing the work, and finally a very complete index provides a ready reference for anything you may want to undertake.

(Published at 6/- by The English Universities Press, Little Paul's House, Warwick Square, E.C.4.)

Photo Guides

THIS is not one handbook, but a series of eight little books which you can slip in your pocket to read at any odd moment or even when you are in a position of wanting to know some particular table. Each photo guide deals very clearly with the subject, giving illustrated examples to prove what is in the text. There is one on "130 Photo Faults," another of "Action Snapshots," another "How to Enlarge" and another on "Taking Pictures at Night." Any or all of them are worth having as a book of reference, and a leaflet giving some further details about them is obtainable from the publishers.

(Published at 1/- each by Sands, Hunter & Co., Ltd., 37 Bedford Street, Strand, W.C.2)

Cigarette Cards and how to Collect Them

By I. O. Evans.

IF you knew the amazing range of subjects which have been dealt with by tobacconists in this form of publicity you would undoubtedly be surprised. Here we have a book of over 150 pages and in it are illustrated dozens and dozens of various series of cards which have been published from time to time. The beginning

of cards apparently was as early as 1884. They were very plain ordinary affairs and naturally came, like the tobacco, from America. Some of the original ones, however, were of similar theme to present day ones and covered "Dogs of the World," "Flags of all Nations," and so on. One must remember that cigarettes about 50 years ago were sold in flimsy coverings of paper and these cards were originally put in as stiffeners. At first they were blank, but obviously the publicity value was soon found out. From the advertising on the cards they passed to picture cards, although then only printed in a very crude form and all one colour. Now, of course, they are done in many colours and cover subject matter of everyday life all over the world. The book illustrates some quaint oriental ones as well as rare cards and curiosities. Then it goes on to tell you how to make a collection and several ways of storing, arranging and collating.

(Published at 3/6 by Herbert Jenkins Ltd., 3 York Street, St. James's, London, S.W.)

101 Things for the Handyman to do

By A. C. Horth

WE have already seen the books on "101 Things for Boys, Girls and Little Folks to Do," so now we are equally delighted to have an even wider range of handwork suitable for the grown-ups to undertake. Everyone more or less likes to be a handyman in his own house, and this is just the book to which any fellow can refer when he proposes to undertake something about which he has no previous knowledge. Drawings and details are

equally helpful, and the list of contents covers almost everything likely to be needed by the average home handyman. It does not, of course, cover only the interior work of the house, but tells you how to overhaul the lawn mower, to make a garden seat, to repair the trellis, and so on and so on. Indoors you have a very wide range of articles to make, and an equally large number of jobs to do, whether it is fixing the washbasin, adding suitable names to the house, papering, laying new floor boards, repair work of all kinds, or even soling your own boots. Altogether a thoroughly practical book written by an expert who knows just what the handyman needs to know.

(Published at 5/- by B. T. Batsford Ltd., 15 North Audley Street, London, W.1.)

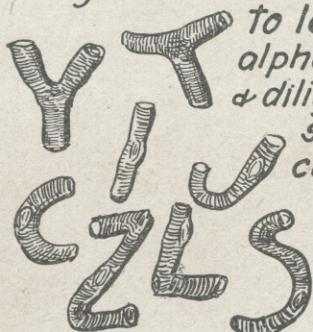
Naturecraft

By G. J. Roberts

HERE is a small pocket handbook printed in large type and with clear illustrations of just those happy little pastimes which can be undertaken by anyone with a gift of imagination and an aptitude for turning ordinary articles into artistic results. It is a case of modelling from such natural material as horse chestnuts, sycamore fruits, acorns, feathers and even twigs, bark and moss. And a glance through the book makes one realise what an amazing variety of really intriguing models can be made in this way. It is a delightful pastime for those who are not very energetic, and would undoubtedly appeal to an invalid as well as the artistic worker.

(Published at 2/- by Naturecraft Ltd., Loates Lane, Watford, Herts.)

Twig Alphabets: When a hedge is being clipped, examine the cuttings closely. Some bear a good resemblance



to letters of the alphabet. With patience & diligence, a complete set may be collected. Glass beads may be added for eyes. Leave bark on for "scaly" effect, or strip & varnish.

Grotesque "animals" can be made from larger twigs. A little trimming is allowable, but leave in as natural a state as possible.



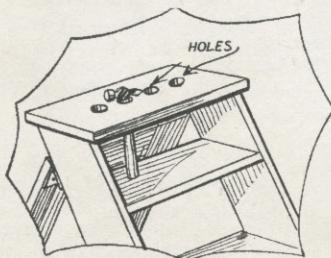
WB

HINTS & TIPS WORTH KNOWING

For original Tips published the sender will receive a *Hobbies Handy Propelling Pencil*. We cannot acknowledge all those received, or guarantee to print them. Send to The Editor, *Hobbies Weekly*, Dereham, Norfolk. Keep them short and add sketches if necessary.

Step Ladder Tool Holder

If you are always doing odd jobs about the house and step ladders have to be used, it is often



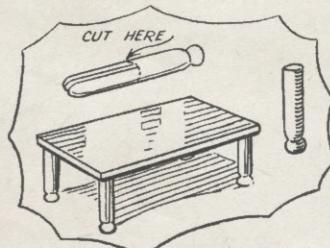
a tiresome business having to run up and down the steps for certain tools you need. This idea will save you the trouble, as you have the tools at hand whenever you want them. Bore a number of holes in the top of the steps according to the size you require. In these you can place the tools you need, such as a hammer and a screwdriver, etc. Small hooks can also be added to hang tins of paint on.—(J.M.)

Rust Remover

If you should get some rust on your tools, get a piece of damp rag and dip it on the ash of the fire, rub it on the tool and the rust will soon disappear.—(H.S.)

Model Legs

HERE is a tip that I find very useful when making doll's house tables. Cut a piece of plywood about $2\frac{1}{2}$ ins. by 3ins., and produce 4 clothes pegs. Now cut the prongs off and nail to



bottom of plywood. When stained and polished, it looks very attractive.—(R.W.)

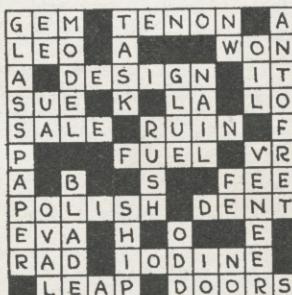
Overlay Substitute

WHEN making up the design for Australia's Anniversary Commemoration Plaque, a good plan is instead of using fretwood for the overlays, use Ivorine or Xylonite, according to the wood used for the main piece.—(S.L.C.)

Stains on Concrete

WHILE experimenting on the removal of oil stains left by cars on our concrete drive, I found that if Creosote, Jeyes Fluid or similar preparations were left on the marks on the concrete for an hour, they would be completely removed after washing. These preparations must be in the undiluted state.—(E.H.)

Correct Solution to last week's FRETWORK X WORD

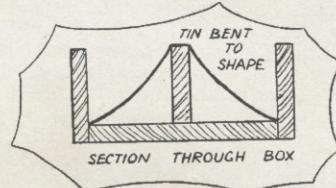


Model Boatbuilding

IF, when hollowing out a boat from a solid block, you suffer from blisters, it is a good plan to wear an old right-hand glove with the fingers removed, as this protects the palm of the hand. To save work, too, it is a good plan to bore holes with a twist bit all round the edge of the boat before attempting to hollow it out. If a gouge is placed in one of the holes at the stern or bow, the surplus wood can easily be removed with light taps from a mallet. This also lessens the risk of cracking the walls of the boat.—(J.H.)

Nail Box Hint

HERE is a small hint which might be useful to some readers. Everyone knows the trouble of getting small nails and screws out of ordinary nail boxes.



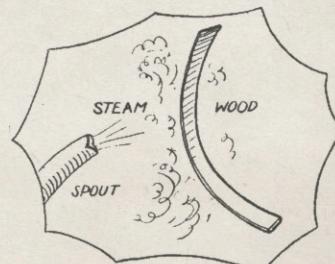
By cutting a piece of tin to the sketch, the difficulty can be overcome. The width of the slots in the tin correspond with the thickness of the partitions in the box, the tin being bent to shape as shown.—(R.J.)

A Safe Explosive

HERE is an interesting Chemical experiment. Place about $\frac{1}{4}$ inch of iodine crystals in a test tube and cover well with a strong solution of ammonia. Leave for about half an hour and then filter. Leave the dark brown sludge on the filter paper to dry thoroughly. When dry, touch with the point of a penknife and it will explode.—(E.T.C.)

Bending Wood

WHEN bending strips of wood in the steam from a kettle to go round the hull of a model galleon or similar models, it is essential that the wood is held the



right way round. If not, it will curve in the opposite direction to your wish. The diagram shows the way the wood bends.—(E.D.)

The EDITOR'S NOTES



I DO hope you are all entering that novel Picture Puzzle Competition. Next week is the last of the set of four and then you will be told exactly how and when to send in your entry. There is no entrance fee, and I am arranging a long list of prizes so all who deserve them may be winners.

* * *

A LL kind of interesting correspondence comes to my mail bag. I don't know whether it is the alleged influence of spring which seems to inspire poets, but spasms of rhyme have been bursting forth recently. Here is one of the short bits, coming from L. Tweed of Hayes, Middlesex.

If you want to work with ease
Use some tools that sure do please ;
And what can be a better plan
Than 'Hobbies' for the handyman ?

* * *

NOW that summer time has arrived—according to the law of the land, at any rate—we shall naturally be thinking of outdoor work and play. So many, too, love the river, and canoeing being so popular I am arranging for an article to appear shortly on how to make one of these craft. Then, too, trailing a caravan is very popular, so I shall have a practical illustrated article on making a modern streamline model. Both of which will be really practical pieces of work which the average amateur carpenter will be able to make—not the incomplete and theoretical instructions which sometimes appear.

* * *

I WONDER how many workers are left-handed in the use of the fretwork handframe? Not very many, I expect. It is done, however, and very well done, too in some cases, because in thanking me for a prize one winner mentions the fact that his work was done in this way. It would probably seem awkward if we tried it, but strangely enough this left-handed business seems to come naturally to some people.

* * *

I SEE a gentleman living in a two-roomed cottage in Yorkshire is described as the "Hobby King" by a Sunday newspaper, because he is—they say—the man "with the most hobbies in Britain." I wonder! And does a large number of hobbies constitute the title of kingship? I wonder

again. The gentleman seems to be a collector and goes in for a wide variety from land and sea shells to orange wrappers and playbills. Anyhow, I imagine some of our readers are also worthy of a title, if I am anything of a judge of some of their work.

* * *

DOWN in Cornwall recently another wide range of hobbies was manifested at the Callington School Exhibition. A new side to the usual models was a boat capable of carrying six people and some original literary and musical compositions. Well, you just see, how appeals to pastimes vary in different districts and there is no reason why an exhibition should always follow the same lines or include similar models. There should certainly always be an opportunity for people to show their original work, even if it does not come under any particular heading. An exhibit of this kind will very likely suggest a new class which can be added to the schedule another year.

* * *

PLYWOOD is being used a great deal nowadays by our readers for making many of the things shown in these pages, and in this connection I would issue a word of warning. It is all wrong to buy cheap wood which is going to be cut up very much—particularly in small fretwork pieces. You see, so often the glue used is inferior and whilst the surfaces may be joined in the mass, there are often areas where no glue has been applied. In consequence, as soon as you cut out some little part or fret away some intricate design, some of the layers fall out or disintegrate and are useless.

This is particularly troublesome when the plywood is used because of its strength. It can be cut for small wheels or as gears or as eccentrics.

In consequence a large amount of strain is put on, and it seems a pity if the whole model is rendered unworkable because of the brittle or damaged ply which has been used. We, all of us, like to save money where we can, but it is really false economy to buy very cheap material which is really useless and only serves to disappoint or irritate us. Buy the best you can for the job and so save yourself having to buy a second lot, or "spoiling the ship for a ha'porth of tar."

NEXT WEEK'S DESIGN SHEET "STAG" PHOTO FRAME



MISCELLANEOUS ADVERTISEMENTS

100 STAMPS, all different, free to approval applicants sending 2d. postage.—**Errington Macquire (O)**, 51 Atkins Road, London, S.W. 12.

FRAME YOUR OWN PICTURES! We supply mitre block, cramps, mouldings, etc. Easy, fascinating work. Profitable, too!—Hobbies Ltd., Dereham.

25 STAMPS Free, request approvals.—C. R. Murfin, 164 Uttoxeter Old Road, Derby.

APPROVAL Books containing 1,000 really good stamps at 5/- per hundred, specially prepared for junior collectors, also better ones.—“Duplicates,” 54 The Downs, Altrincham, Cheshire.

STAMP APPROVALS: ½d. upwards, half catalogue price.—Vectis Stamp Supply, Binstead, I.O.W.

ONLY? Then write Secretary; U.C.C. 16 B.B., Cambridge Street, London, S.W.1. Genuine Estab. 1905.

WANTED original poems, songs, for immediate consideration. Send poems to Columbian Music Publishers, Ltd., Dept. 280, Toronto, Canada.

BRAND New Cabinet Maker's 4in. Precision Planing Machines, £4. Motorised, £7. Electric Motors; Paint Spray Plants; Drilling Machines, etc.—John H. Steel, Bingley.

25 STAMPS Free, to applicants for approvals, state ½d. or higher values.—L. Andrew, 40 Castleway, Salford, 6, Lancs.

The advertisements are inserted at the rate of 2d. per word prepaid. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Order and Stamps must accompany the order. They will be inserted in the earliest issue. To sell anything except fretwork goods or those shown in Hobbies Handbook. Orders can be sent either to Hobbies Weekly, Advertisement Dept. 30/32 Ludgate Hill, London, E.C.4, or Dereham, Norfolk.

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Carriage Forward

COLLAPSIBLE BENCH

STAMP COLLECTION CORNER

THERE are now so many King George VI stamps coming on to the market that it is very difficult to tell you about all of them, and quite impossible to illustrate them. The only thing one can hope to do is to illustrate the most interesting and describe the others.

Actually, one set has been out for quite a long time and no note of it has been made in these columns. The reason for this is



Old and New in Egypt

that the supply of stamps did not come in time to go into the last New Issues and Notes article and by now the stamps are almost old.

It is the Indian set which has not been shown, but as these stamps are quite likely to be in the hands of most of you by now, we shall content ourselves with the statement that the idea behind the set has been to show the different manner in which the letters are carried. That is, from place to place rather than from door to door.

For the Radio Congress, Egypt has chosen an interesting design. It shows the Pyramids, the Colossi of Thebes (these are also seen on the 10 m. of the 1914 issue) and in front of these most ancient mysteries there is a telegraph wire and a wireless aerial. If that is not a case of showing the old and the new, well find one!

Egypt has also a set in commemoration of the International Cotton Congress—not a very clear specimen of a man gathering cotton.

There is not a very great change in the designs of the stamps from Bermuda, although the Hamilton Harbour stamp shows a better view, because there are some ships in the foreground. St. David's Lighthouse comes into the set for the threepenny, and Grape Bay



Grape Fruit Growing

does duty on different values. The higher values go back to the design which was in use in the earlier days of King George V's reign.

British Guiana has approximately the same designs for the new reign. The only difference is that for the four cents there is a map of South America, rather after the style of the Argentine 1 peso.

The first real change to chronicle is from British Honduras, and so far there is a three cents, four, and five cents., all with different designs. They have broken away from the usual type of colonial, and they have three pictorial stamps in exchange.

The three cents has a picture of the Cohune palm, the four cents gives a list of the local products, but each is illustrated in miniature by the label.

One of these products is chicle, the basis of chewing gum, which apparently consists of chicle with various flavours incorporated by heat. The third stamp of the set is illustrated and shows the production of Grape fruit.

Only two of the stamps from Ceylon have changed in design. The 10c now shows the Lion Rock and the new stamp is a two rupee. There are slight alterations in the old designs to balance the design now that the words postage and Revenue have been left out.

Seychelles has no less than fifteen stamps, and three designs do duty for this lot. The two cent shows a Coco-de-mer Palm. The stem of this tree is used for timber, the leaves yield fibre for cordage, and that obtained from



Age of a Tortoise

NOTES ON NEW ISSUES

the leaf sheaves is used for stuffing pillows and beds.

Many legends cluster round this species, which General Gordon held to be the 'forbidden fruit'. His notes and drawings, intended to prove that the garden of Eden was in the Seychelles were published in 1888, and are now in the museum at Kew.

The principal island of the group is Mahé, and this is famous for the gigantic land tortoise. There has been much speculation as to the age to which these animals live.

As an example take the case of the famous 'Marion's Tortoise' which in 1766 was taken from the Seychelles to Mauritius. When the British took possession of the island in 1810 this specimen was taken over too, and was said at the time to have attained its full size. From then onwards it lived in the Artillery Barracks, but about 1918 (blind from old age) it fell down a well and was killed. It must thus have been well over 150 years old at the time of its death!

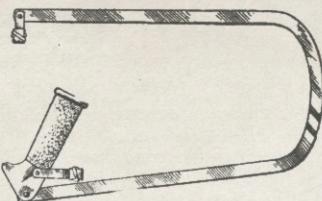
The six cents value has a fishing pirogue as the main part of the design. In each case the portrait of H.M. King George VI is in an oval looking towards the design.



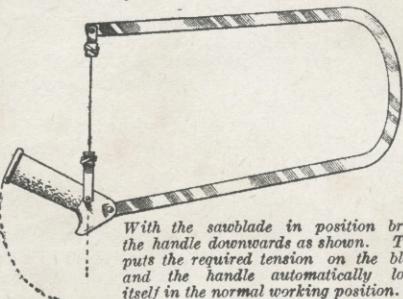
Cocoa from Costa Rica

Then lastly there are two rather fine specimens from Costa Rica. The stamps are of peculiar form, inasmuch as they are diamond shaped. The 1c. has a flower the Guaria Morada, and the 3c. has an excellent close up of the cacao pod. These two stamps are issued in connection with the National Exhibition. They look good but they are not very valuable.

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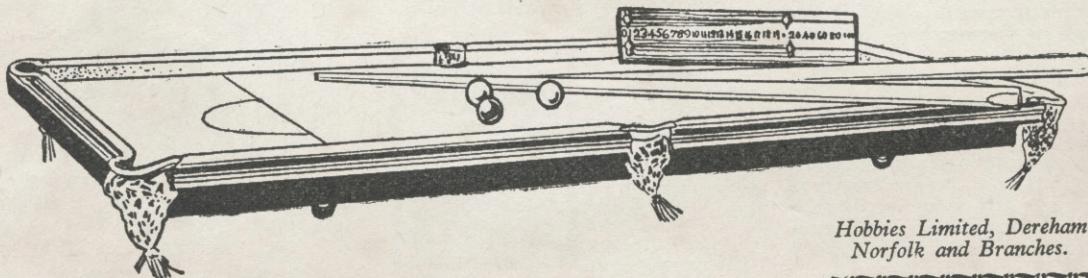
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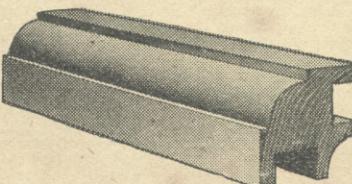
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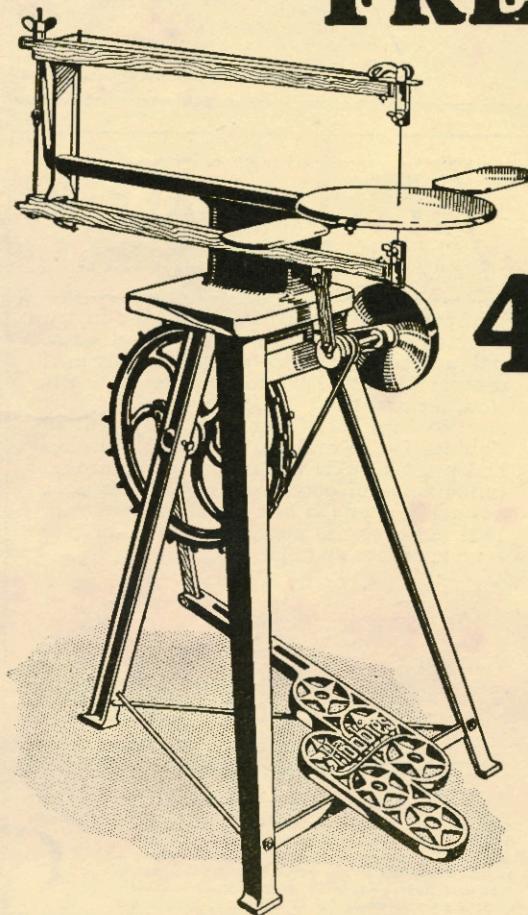
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